

Patterns für intuitivere (Unit-)Tests

#ETKA2014

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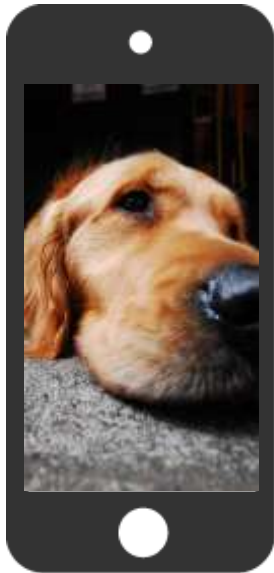
```
listenToTalk();  
writeTest();  
assertColleaguesHappy();
```

P A R E N T A L
A D V I S O R Y
E X P L I C I T C O N T E N T

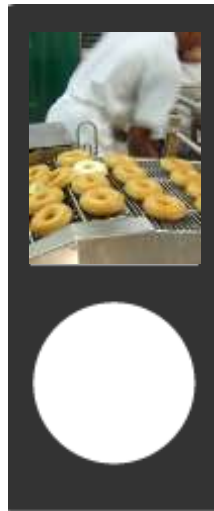


Einsichten ... erlangen,
ohne ... Gebrauch des **Verstandes**,
... **ohne** bewusste Schluss**folgerungen**

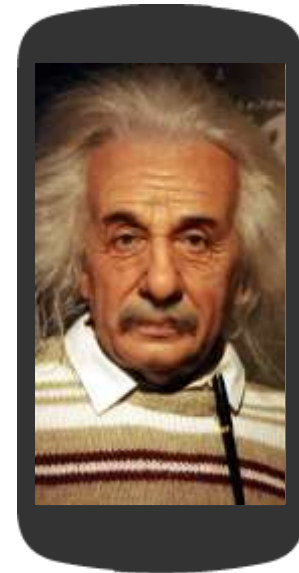
Wir  Intuitives



Faulheit

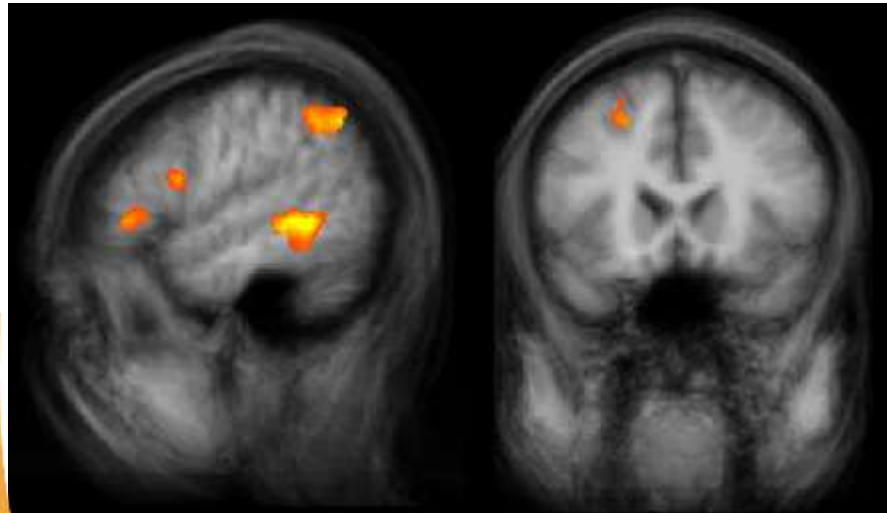


Effizienz



„Intelligenz“

Programmverstehen



Sprachverarbeitung
& Kombinatorik

Problemlösung

Produktiv Code

```
#include <nothing>
unsigned main()
{
    write : Hello all;
    write : I know !;
    write : not real;
    write : sp ;
    return all;
}
```



Test Code

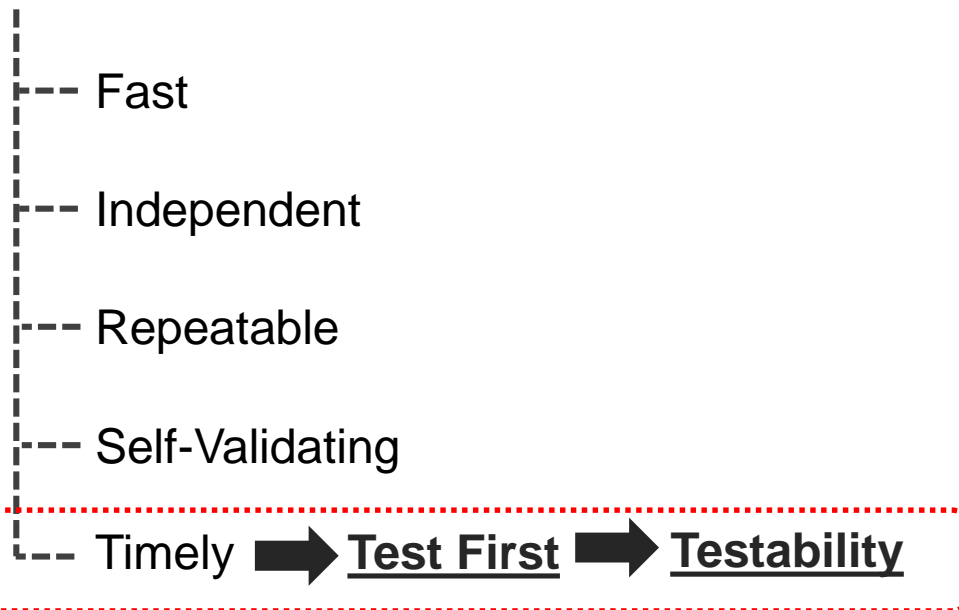
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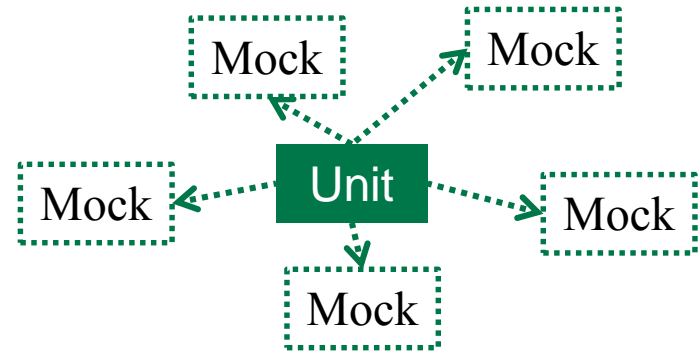
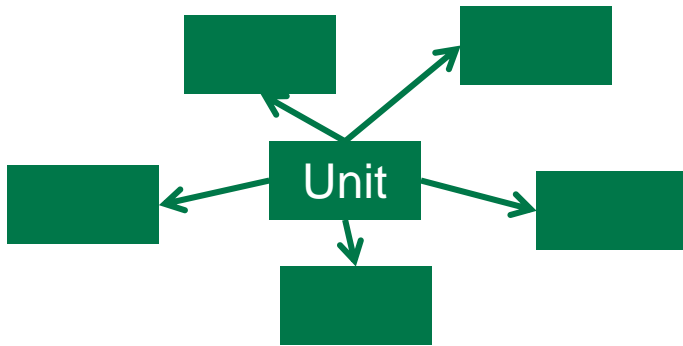
F.I.R.S.T

- Fast
- Independent
- Repeatable
- Self-Validating
- Timely

F.I.R.S.T



Design for Mockability



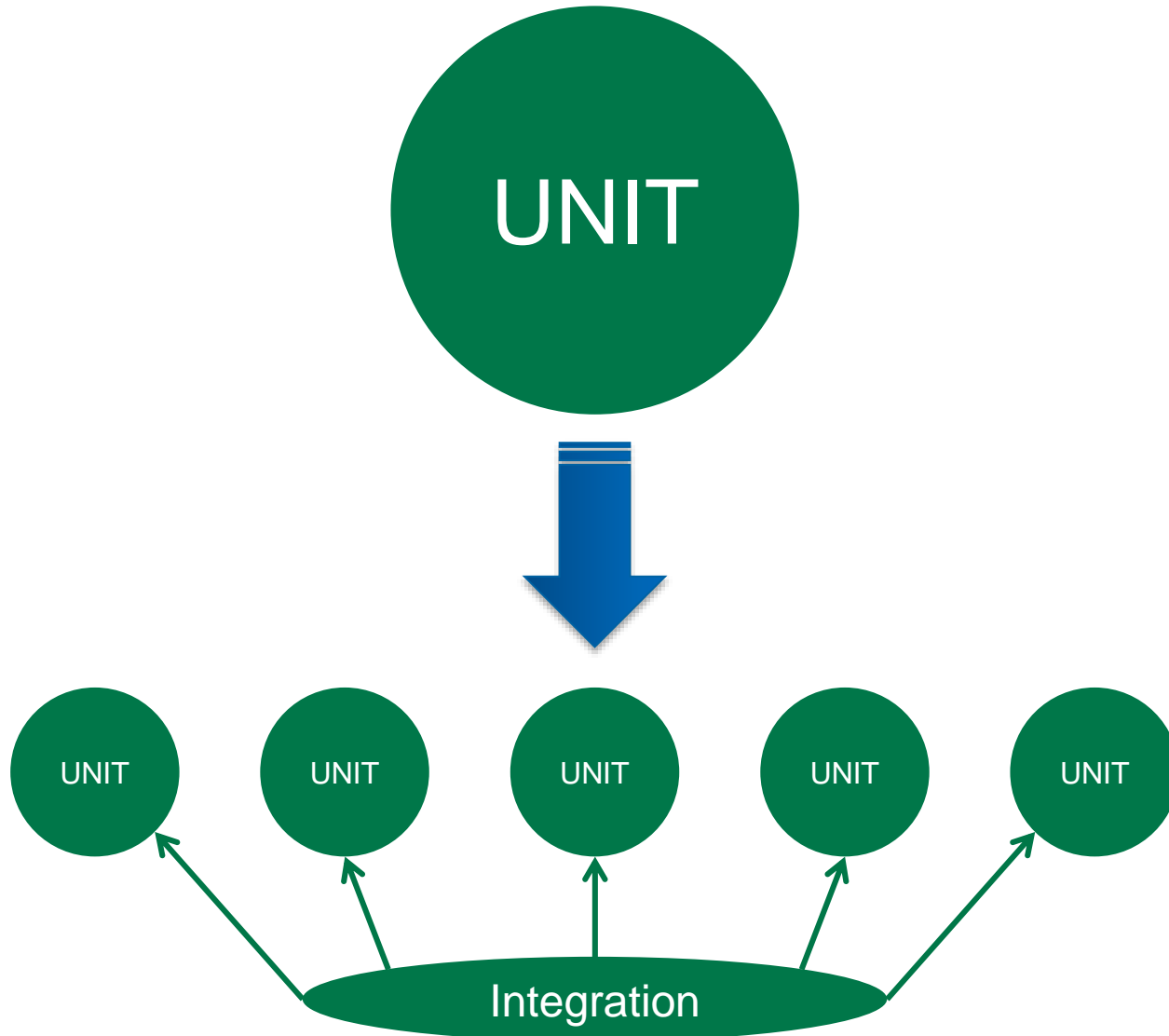
S O C K-Testability

- Simplicity
- Observability
- Control
- Knowledge

S O C K

-Testability

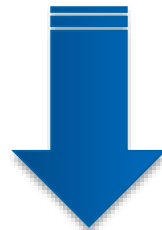
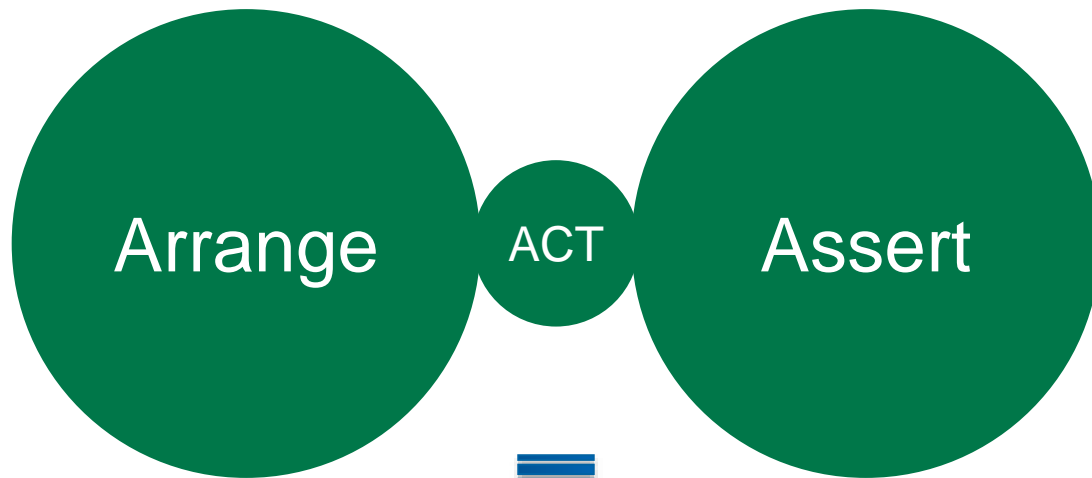
- Einfach „anzuprogrammieren“
- Zustand sichtbar
- Leicht vorzubereiten
- Ergebnis leicht zu bewerten

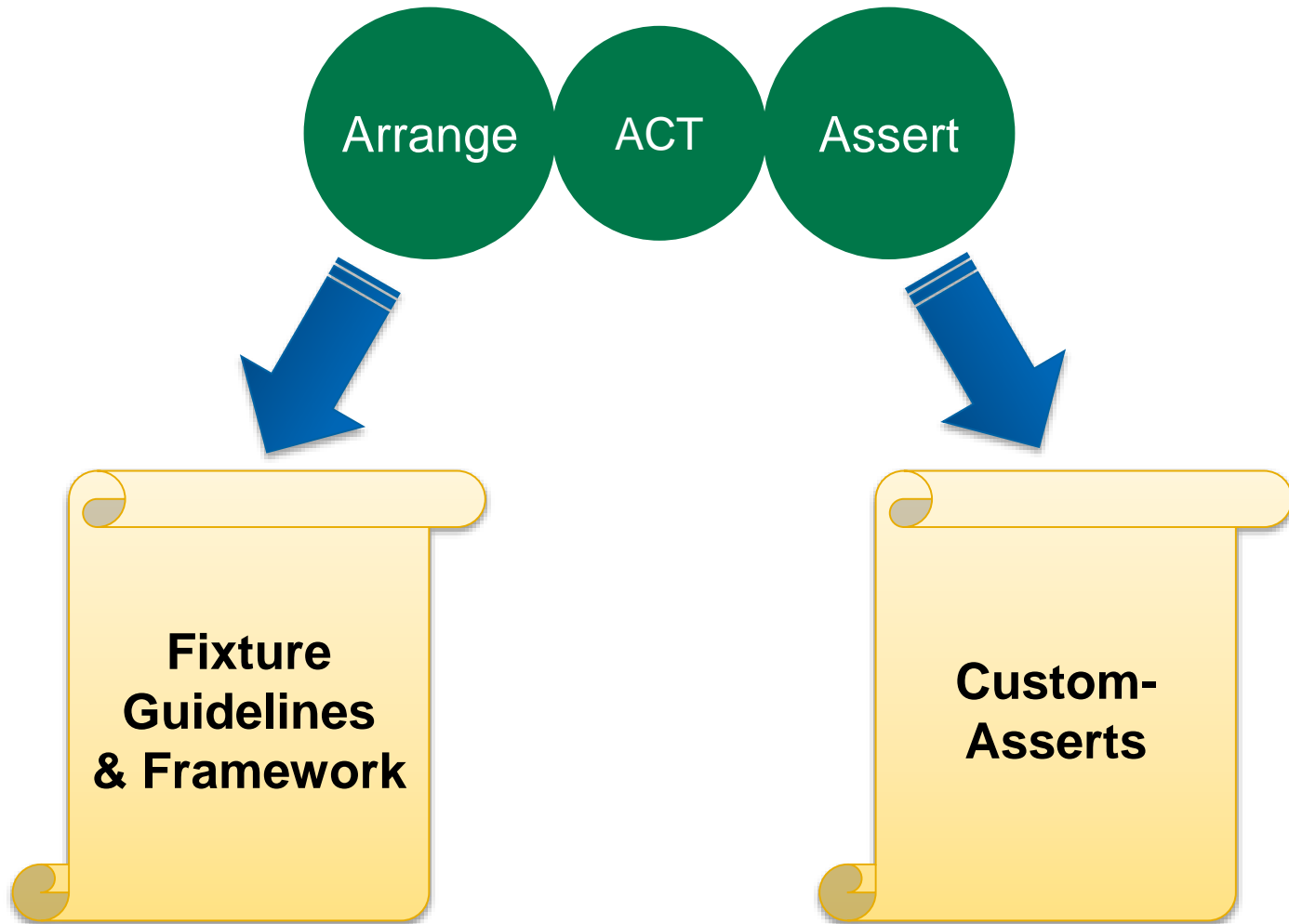




AAA

- - Arrange
- - Act
- - Assert





Data Builder Pattern

```
User user = new User();
user.setName("John");
user.setBirthday(new SimpleDateFormat("dd.mm.YYYY").parse("21.05.2014"));
user.setCity("Capetown");
Login login = new Login()
login.setUsername("JohnBoy");
login.setPassword("/uio778%H");
user.setLogin(login);
```



```
User user = new UserBuilder().withName("John")
                               .withBirthday("21.05.2014")
                               .livingIn("Capetown")
                               .withLogin("JohnBoy", "/uio778%H")
                               .build();
```

Sprechende Asserts

```
assertTrue(result != null);  
assertTrue(result.getValues().size > 0);  
assertTrue(result.getValues().get(0).getContentType().startsWith("<?xml v
```



```
assertXMLValue(result);
```



Tests für andere schreiben!

@Ignore

@Ignore

@Ignore
Indirection

```
Talk talk = new Talk();  
talk.gotTo(this.slide);  
assertTimeIsOver();  
  
log(„Danke für die Aufmerksamkeit“);
```

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Buchempfehlung

